

IN THE CLAIMS

1-22 (canceled)

23. (Currently Amended) A method of forming an anode for an alkaline cell having an anode cavity therein, comprising the step of:

a) forming a wet mixture comprising zinc particles, a binder comprising [[an alcohol such as]] polyvinylalcohol and a gelling agent, and water;

a.1) inserting said wet mixture into a mold cavity;

a.2) applying pressure to said wet mixture in said mold cavity thereby compacting said wet mixture within said mold cavity;

a.3) ejecting said compacted wet mixture from said mold cavity thereby producing a molded wet mixture having a molded shape, whereupon said molded wet mixture retains its molded shape;

b) drying [[the]] said molded wet mixture to evaporate [[at least a portion of the]] water therein and thereby producing a [[dimensionally stabilized]] dry solid mass comprising said zinc particles, said solid mass retaining its molded shape;

c) inserting said [[dimensionally stabilized]] solid mass into the anode cavity of an alkaline cell; and

d) adding a fluid to the anode cavity whereby said fluid is absorbed by said solid mass, said fluid activates said gelling agent, and thereby forms said anode.

24. (Original) The method of claim 23 wherein said fluid comprises aqueous alkaline electrolyte.

25. (Currently amended) The method of claim 23 wherein said [[dimensionally stabilized]] solid mass is a solid porous mass comprising zinc particles.

26. (Original) The method of claim 25 wherein said solid porous mass expands as said fluid is absorbed therein in step (d).

27. (Currently amended) The method of claim 23 wherein said molded mixture is at least substantially wrapped with a separator material prior to drying said mixture.

28. (Currently amended) The method of claim 23 wherein said wet mixture is molded into a designated shape conforming to the shape of said mold cavity prior to drying said mixture.

29. (Original) The method of claim 24 wherein the aqueous alkaline electrolyte comprises potassium hydroxide.

30. (Original) The method of claim 23 wherein said drying in step b) is effected by heating said wet mixture.

31. (Original) The method of claim 23 wherein the polyvinylalcohol has a molecular weight between about 85000 and 146000.

32. (Canceled) The method of claim 23 wherein said binder further comprises a gelling agent.

33. (Original) The method of claim 23 wherein said binder further comprises a crosslinked acrylic acid polymer gelling agent.

34. (Original) The method of claim 23 wherein said binder further comprises a gelling agent comprising a starch graft copolymer of polyacrylic acid and polyacrylamide.

35. (Canceled) The method of claim 23 wherein said binder further comprises CARBOPOL C940 crosslinked acrylic acid polymer.

36. (Canceled) The method of claim 23 wherein said binder further comprises a mixture of CARBOPOL C940 crosslinked acrylic acid polymer and WATER-LOCK A-221 starch graft copolymer.

37. (Original) The method of claim 23 wherein said mixture prior to drying further comprises indium in total amount between about 200 and 1000 ppm of the zinc.

38. (Original) The method of claim 23 wherein said mixture prior to drying further comprises a surfactant.

39. (Original) The method of claim 38 wherein said surfactant comprises an organic phosphate ester.

40. (Original) The method of claim 25 wherein said solid porous mass is storable in ambient air.

41. (Currently amended) The method of claim 23 wherein said wet mixture is molded in said mold cavity into the approximate shape of the anode cavity of an alkaline cell prior to drying said mixture.

42. (Withdrawn) An electrochemical cell comprising a housing, a positive and a negative terminal, an anode comprising zinc and polyvinylalcohol, an aqueous alkaline electrolyte solution, a separator, and a cathode comprising a cathode active material.

43. (Withdrawn) The cell of claim 42 wherein said cell is a primary cell.

44. (Withdrawn) The cell of claim 42 wherein the aqueous electrolyte comprises potassium hydroxide.

45. (Withdrawn) The cell of claim 42 wherein the polyvinylalcohol has a molecular weight between about 85000 and 146000.

46. (Withdrawn) The cell of claim 42 wherein the cathode comprises manganese dioxide.

47. (Withdrawn) The cell of claim 42 wherein the zinc comprises zinc particles having a mean average particle size between about 30 and 1000 micron.

48. (Withdrawn) The cell of claim 42 wherein the zinc comprises zinc particles having a mean average particle size between about 30 and 400 micron.

49. (Withdrawn) The cell of claim 42 wherein said anode further comprises a binder comprising a gelling agent comprising a crosslinked acrylic acid polymer.

50. (Withdrawn) The cell of claim 42 wherein said anode further comprises a binder comprising a gelling agent comprising starch graft copolymer of polyacrylic acid and polyacrylamide.

51. (Withdrawn) The cell of claim 42 wherein said anode further comprises a surfactant.

52. (Withdrawn) The cell of claim 51 wherein said surfactant comprises an organic phosphate ester.

53. (Withdrawn) The combination of an alkaline cell housing having an anode cavity therein and a porous mass inserted into said anode cavity, said mass comprising zinc particles bound together forming a network of zinc particles with void spaces therebetween, said mass being dimensionally stabilized.

54. (Withdrawn) The combination of claim 53 wherein said mass is a solid porous mass.

55. (Withdrawn) The combination of claim 54 wherein said solid porous mass is at least substantially dry.

56. (Withdrawn) The combination of claim 53 wherein said mass is at least substantially wrapped with a separator material.

57. (Withdrawn) The combination of claim 56 wherein said separator material adheres to said solid mass.

58. (Withdrawn) The combination of claim 54 wherein said solid porous mass at least substantially fills said anode cavity.

59. (Withdrawn) The combination of claim 53 wherein said network of bound zinc particles extends at least substantially throughout said mass.

60. (Withdrawn) The combination of claim 59 wherein said zinc particles is uniformly distributed within said network.

61. (Withdrawn) The combination of claim 54 wherein said mass has a porosity of between about 25 and 50 percent by volume.

62. (Withdrawn) The combination of claim 51 wherein polyvinylalcohol coats a portion of the surface of said zinc

particles thereby binding said zinc particles together forming said network of zinc particles.

63. (Withdrawn) The combination of claim 62 wherein said polyvinylalcohol has a molecular weight between about 85000 and 146000.

64. (Withdrawn) The combination of claim 53 further comprising a binder comprising acrylic acid polymer between said zinc particles.

65. (Withdrawn) The combination of claim 53 further comprising a surfactant.

66. (Withdrawn) The combination of claim 65 wherein said surfactant comprises an organic phosphate ester.

67. (Withdrawn) The combination of claim 53 wherein said zinc particles have a mean average size of between about 30 and 1000 micron.

68. (Withdrawn) The combination of claim 53 wherein said zinc particles have a mean average size of between about 30 and 400 micron.

69. (Withdrawn) The combination of claim 53 wherein said mass further comprises indium in total amount between about 200 and 1000 parts by weight indium per million parts zinc.

70. (Withdrawn) The combination of an alkaline cell housing having an anode cavity therein and a dimensionally stabilized mass comprising anode active material inserted into said anode cavity.

71. (Withdrawn) The combination of claim 70 wherein said mass at least substantially fills said anode cavity.

72. (Withdrawn) The combination of claim 70 wherein said mass is a solid porous mass.

73. (Withdrawn) The combination of claim 72 wherein said mass comprises zinc particles bound together forming a network of zinc particles with void spaces therebetween.

74. (Withdrawn) The combination of claim 73 wherein said network of bound zinc particles extends at least substantially throughout said mass.

75. (Withdrawn) The combination of claim 72 wherein said mass has a porosity of between about 25 and 50 percent.

76. (New) The method of claim 23 wherein said pressure applied to said wet mixture in step a.2 corresponds to a force of between about 10 and 300 pounds applied by a plunger to said wet mixture in said mold cavity being cylindrical and having a diameter between about 3 and 7 mm, thereby compacting said wet mixture within said mold cavity.